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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/810,948	03/16/2001	Duanyi Xu	NTP-101US	7231
23122	7590	10/03/2003	EXAMINER	
RATNERPRESTIA P O BOX 980 VALLEY FORGE, PA 19482-0980			PATEL, GAUTAM	
			ART UNIT	PAPER NUMBER
			2655	

DATE MAILED: 10/03/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/810,948

Applicant(s)

XU ET AL.

Examiner

Gautam R. Patel

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 September 2003 and 15 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5 and 7-26 is/are pending in the application.
- 4a) Of the above claim(s) 12-26 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5 and 7-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☒ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

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DETAILED ACTION

1. Claims 1-5 and 7-11 are pending for the examination. Claim 6 is canceled by the Applicants and claims 12-26 are withdrawn from further consideration as being non-elected.

Election/Restriction

2. Claims 12-26 withdrawn from further consideration by the examiner, 37 C.F.R. § 1.142(b) as being drawn to a non-elected program conversion method.
Election was made **without** traverse in Paper No. 5.

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 C.F.R. § 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a diligently-filed petition under 37 C.F.R. § 1.48(b) and by the fee required under 37 C.F.R. § 1.17(h).

Applicants are urged to cancel non-elected claims 12-26.

Priority

3. Priority has been claimed . However **NO** papers are submitted under 35 U.S.C. § 119(a)-(d), which papers can be placed of record in the file. Therefore priority is **NOT** given.

NOTES & REMARKS

4. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors in claims and application. For example amended claim 5, last line has Aa objective lens@. Applicant's cooperation is requested in correcting any errors of which Applicant may become aware in the specification. Also specification and claims are clearly not readable, because of bad original copy, causing difficulty in understanding.

Specification

5. The disclosure is objected for following reasons.

The title of the invention is neither precise nor descriptive. A new title is required which should include, using twenty words or fewer, claimed features that differentiate the invention from the Prior Art. It is recommended that the title should reflect the gist of or the improvement of the present invention.

Correction is required.

Claim Rejections - 35 U.S.C. ' 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. ' 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-5 and 7-10 are rejected under 35 U.S.C. § 102(b) as being anticipated by Peeters et al., US. patent 4,394,661 (hereafter Peeters).

As to claim 1, Peeters discloses the invention as claimed [see Figs. 1-3] including a substrate, a reflective layer and a protective layer, comprising:

a substrate [fig. 1, element 1] in which components of at least one wavelength light beam are recorded by modulating transmissivity of the substrate for each of said components,
wherein information layers of a substrate are located within a focal depth of an objective lens for reading the optical disc;

a reflective layer [fig. 1, layer 2] on the substrate to reflect the modulated optical signal; and

a protective layer [fig. 1, layer 5] on the reflective layer [col. 5, line 29 to col. 6, line 6].

7. As to claim 2, Peeters discloses:

further comprises a photochromic super-resolution mask layer sandwiched between the substrate and the reflective layer,

the photochromic super-resolution mask layer comprising high-order non-linear photochromic materials [col. 6, line 61 to col. 7, line 2 and col. 7, lines 25-63];

wherein all the information layers and the mask layer are located within the focal depth of the objective lens [col. 7, lines 25-63 and col. 8, lines 8-60].

8. As to claim 3, Peeters discloses:

the information layers of the substrate comprise photochromic materials [col. 6, line 61 to col. 7, line 2 and col. 7, lines 25-63].

9. As to claim 4, Peeters discloses:

The information layer being pre-stamped with information pits [inherently present].

10. As to claim 5, Peeters discloses:

a substrate [fig. 1, element 1];

multiple recording layers [fig. 1 layers 2-5] on the substrate, wherein multiple recording layer comprising it least one kind of photochromic material [spiropyrans] [col.

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6, line 61 to col. 7, line 2], said recording layers being orderly arranged one by one on the substrate, and said multiple recording layers located within the focal depth of an objective lens for reading or writing the disc [col. 5, line 29 to col. 6, line 6];

a reflective layer [fig. 1, layer 2] on the recording layers to reflect the light signal transmitted from the recording layer [col. 5, line 29 to col. 6, line 6]; and

a protective layer [fig. 1, layer 5] on the reflective layer [col. 5, line 29 to col. 6, line 6].

11. As to claim 7, Peeters discloses:

at least one recording layer of said multiple recording layers comprises a compound of at least two kinds of photochromic materials [col. 6, line 61 to col. 7, line 2 and col. 7, lines 22-40].

12. As to claim 8, Peeters discloses:

said at least one recording layer comprises an organic compound of at least two components selected from a group consisting of spiropyran, spirooxazine, fulgide or axo, or the mixture thereof [col. 6, line 61 to col. 7, line 2 and col. 7, lines 22-40].

NOTE: Since Peeters discloses die precursors such as spiropyrans [plural]. He is disclosing multiple spiropyrans. Also axo are known since 1969 and earlier.

13. As to claim 9, Peeters discloses:

a photochromic super-resolution mask layer, and at least one of said multiple recording layers sandwiched between the photochromic super-resolution mask layer and the reflective layer, wherein the recording layers and the mask layer are located within the focal depth of the objective lens [col. 5, line 29 to col. 6, line 6 and col. 6, line 61 to col. 7, line 2 and col. 7, lines 25-63].

14. As to claim 10, it is rejected for similar reasons set forth in the rejection of claim 8, supra.

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Claim Rejections - 35 U.S.C. § 103

15. The following is a quotation of 35 U.S.C. § 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

16. Claim 11 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Peeters as applied to claims 1-5 and 7-10 above.

As to claim 11, Peeters discloses all of the above elements, including thickness of the layer [0.1 nm, see col. 5, line 44]. Peeters does not specifically disclose, well known fact, that the thickness of other layers may vary between 5 nm to 100 nm]. As mentioned before Peeters teaches that thicknesses of the layers can be selected. The limitations in claim 11 does not define a patentable distinct invention over that in Peeters since both the invention as a whole and Peeters are directed to a multi-level multi-wavelength disk . The degree in which the thickness of disk is selected presents no new or unexpected results, so long as the different appropriate thickness is selected according to wavelength of laser. If one has more penetration capability a thicker layer is selected if one has less capacity of laser to penetrate a thinner layer is selected. Therefore, to have thickness between 5 nm and 100 nm would have been routine experimentation and optimization in the absence of criticality.

Other prior art cited

17. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.
1. Hosono et al. (US. patent 5,045,420) Color image forming method
 2. Nee (US. patent 6,544,616) AMetal alloys for the reflective or semi-reflective layer ...
 3. Sugiyama et al. (US. patent 5,414,451) Three-dimensional recording ..
 4. Poss (US. patent 5,830,529) Perimeter coating alignment
 5. Fan et al. (US. patent 5,838,653) Multiple layer optical recording ...
 6. McCormick, Jr. (US. patent 6,590,852) Massively-parallel writing ..

Contact information

18. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gautam R. Patel whose telephone number is (703) 308-7940. The examiner can normally be reached on Monday through Thursday from 7:30 to 6.

The appropriate fax number for the organization (Group 2650) where this application or proceeding is assigned is (703) 872-9314.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ms. Doris To can be reached on (703) 305-4827.

Any inquiry of a general nature or relating to the status of this application should be directed to the group receptionist whose telephone number is (703) 305-4700 or the group Customer Service section whose telephone number is (703) 306-0377.



Gautam R. Patel
Patent Examiner
Group Art Unit 2655

September 25, 2003